

To: Nesmith, Rodney[rnesmith@pa.gov]; Moore, Brian[briamoore@pa.gov]
Cc: Forney, Lisa[lforney@pa.gov]
From: Zaccano, Robert
Sent: Wed 7/29/2015 4:51:48 PM
Subject: K40 answer

Lisa and I collaborated on a response:

The Department is aware of three (3) loads of waste originating at Miller Chemical that alarmed the radiation meters at landfills. The first load entered Modern Landfill on July 2, 2015. Modern Landfill staff in turn surveyed the load and determined that the load contained Potassium-40 (^{40}K), which is classified as TENORM (Technologically Enhanced Naturally Occurring Radioactive Material). The second and third loads entered Mountain View Landfill on July 3, 2015. Again, staff surveyed the loads and determined that the loads contained ^{40}K .

TENORM is naturally occurring radioactive material not specifically subject to regulation under state and federal laws. TENORM has the potential to result in human exposure when the natural environment is disturbed by human activities. The isotope identified in waste from Miller Chemical, ^{40}K , is both naturally occurring and commonly found in nature as it is the largest source of natural radioactivity found in animals including humans. It has a long half-life of 1.25 billion years. Given its overall abundance and long half-life, it is not unusual for raw materials used by industry to contain ^{40}K . Similarly, it is quite normal for the water intakes to naturally have ^{40}K at some detectable level.

Given the complex clean-up taking place at Miller Chemical, the Department requested that both Modern Landfill and Mountain View Landfill submit an application to the Waste Management Program for a Form U approval to bury the waste. Both facilities agreed to begin the process and obtain a Form U approval. In addition, the Department discussed proper waste characterization, analysis and disposal options with Miller Chemical representatives. It is the understanding of the Department that they have conducted radiologic surveys as waste is generated to determine if any other unusually high concentrations of ^{40}K exist. However, we have not been informed of any additional occurrences.

Robert M. Zaccano | Regional Radiation Protection Manager

Department of Environmental Protection | Radiation Protection Program
Southcentral Regional Office

909 Elmerton Avenue | Harrisburg, PA 17110

Phone: 717.705.4995 | Fax: 717.705.4890

www.depweb.pa.gov

The information transmitted is intended only for the person or entity to whom it is addressed and may contain confidential and/or privileged material. Any use of this information other than by the intended recipient is prohibited. If you receive this message in error, please send a reply e-mail to the sender and delete the material from any and all computers.

Effective July 1, 2014, the 24-hour toll free Emergency Response number for SCRO will be: 866-825-0208